REMARKS

Restriction Requirement

In response to the restriction requirement (Action ¶1), Applicants hereby elect to prosecute Group I (claims 1-3, 5, 7, 8, 11-13, 15 and 17-22) without traverse.

Rejection under 35 U.S.C. § 112

Claims 5, 15, 30 and 32 stand rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for using trademarks/tradenames as claim limitations to identify or describe a particular material or product. (Action, ¶5) With entry of the above amendment, claims 5, 15, 30 and 32 have been amended to replace the trademarks/tradenames cited by the Examiner with the generic descriptions of the claimed materials. Support for these descriptions may be found in ¶0023, as amended in the paper submitted February 15, 2007. No new matter is added by this amendment.

The rejection further finds the term "WPE" to render the claims vague and indefinite because the abbreviation is not readily determinable by one in the art. Applicants respectfully traverse this conclusion and provide herewith in the Appendix several examples in the public literature of documents that define the term "WPE" as waste polyethylene. Thus, applicants aver that the term "WPE" was readily discernable as waste polyethylene by one of skill in the art of packaging pouches commonly used for medical devices. Therefore, applicants respectfully request that the rejection under 35 U.S.C. § 112 be withdrawn.

Conclusion

The Commissioner is hereby authorized to charge any additional fees which may be required under 37 C.F.R. 1.17, or credit any overpayment, to Deposit Account No. 01-2525. If the Examiner feels that a telephone conference would in any way expedite the prosecution of the application, please do not hesitate to call the undersigned at telephone (978) 739-3075 (Eastern Time).

Respectfully submitted,

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APPENDIX

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

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(81) Designated States *(national)*: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW.

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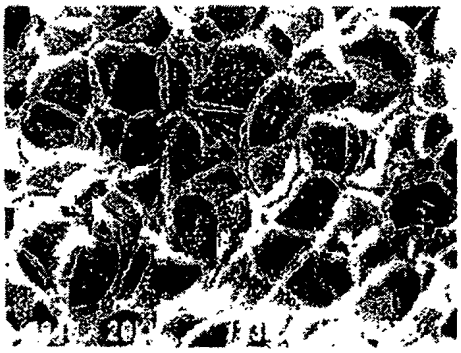
[Continued on next page]

(54) Title: FLAME RETARDING FOAM COMPOSITION UTILIZING WASTE MATERIAL AND FABRICATING METHOD THEREOF



(A)

(B)

(57) Abstract: There is disclosed a flame retarding foam composition which uses waste polyethylene (W-PE), waste ethylene-vinyl copolymer (W-EVA), waste rubber, or ground tire rubber (GTR) as the waste material for a base resin if necessary, blends one or more ingredients out of virgin polyethylene, nitrile rubber and ethylene-propylene copolymer (EPDM) and then adds an inorganic-based and phosphorus-based flame retarding agent, foaming agent, crosslink agent or other addition agent, thereby efficiently recycling the waste plastic, the waste rubber and the ground tire rubber and, at the same time, providing products which are environment-friendly and have a high stability, mechanical and physical property, particularly, a high flame retardancy and economic efficiency.

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Journal of Reinforced Plastics and Composites

Mechanical Properties and Fracture Behavior Short PET Fiber-Waste Polyethylene Compos

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Plastics used in the packaging industry, especially in the form of carry bags and pouches, manifest a for the environment because of their non-biodegradable nature. Addition of both natural and synthetic fibers materials improves their performance, replacing the conventional materials like wood, metal, and ceramic of industrial applications. Short polyethylene terephthalate (PET) fiber-reinforced composites from waste polyethylene (WPE) such as carry bags/pouches collected from municipal solid waste and neat high den (HDPE) were prepared in a Brabender Plasticorder using melt-mixing technique under optimum processi Physico-mechanical properties of these short PET fiber-reinforced WPE and neat HDPE composites wer using standard procedures. It is observed that the mechanical strength is enhanced by increasing the fib 50% by weight. Maleic anhydride (MAH) grafting was done onto the WPE matrix and the resulting compc evaluated for their mechanical properties. The thermal stability of the WPE-PET fiber composites also im significantly with fiber-loading as well as upon grafting the WPE with MAH. Flexural strength exhibited an 59% from 25.4 to 40.5 MPa, proving MAH-grafted WPE (MAH-g-WPE) to have good compatibilizing abili

Key Words: recycling • mechanical properties • thermal analysis • electron microscopy.

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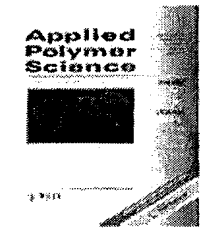

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Studies on the effect of electron beam irradiation on waste polyethylene and its blends with virgin polyethylene

S. Satapathy [1], S. Chattopadhyay [1], K. K. Chakrabarty [1], A. Nag [2], K. N. Tiwari [3], V. K. Tikku [4], G. B. Nando [1]*

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• Indian Institute of Technology

KEYWORDS

waste polyethylene • recycling • crosslinking • electron beam irradiation • fracture studies

ABSTRACT

Waste polyethylene (WPE) was segregated from the municipality solid waste, cleaned, dried, and chopped into pieces, then processed in a Brabender Plasticorder using the melt mixing technique. Blends of WPE and virgin polyethylene were prepared in various proportions under optimized process conditions. Of the various blend proportions studied, 70/30 blend of WPE/low density polyethylene (LDPE) and 50/50 blend of WPE/high density polyethylene showed better mechanical properties and hence selected for further modification involving electron beam irradiation. Aforementioned blends were exposed to various doses of electron beam irradiation and the effect of irradiation on physicomechanical properties such as tensile strength, flexural modulus, hardness, and impact resistance were studied. Thermogravimetric analysis, X-ray diffraction studies, Fourier transform infrared spectroscopy, scanning electron microscopy, and gel content were considered to characterize the blends. Physicomechanical properties improved to an appreciable extent on irradiation but the elongation at break reduced drastically. Blow molding of the 70/30 WPE/LDPE blend could be done successfully to make bottles. © 2006 Wiley Periodicals, Inc. J Appl Polym Sci 101: 715-726, 2006

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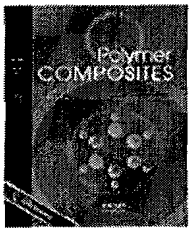

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Article

Modification of asphalt by packaging waste-polyethylene

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ABSTRACT

The "white pollution" made of packaging waste polymers and its recycling has become a common issue. In this article, the retrieved waste milk-packing bag (its main ingredients was polyethylene) was selected to modify the ordinary oil asphalt. Asphalt was modified with 1, 3, 6, and 9 wt% content of waste-polyethylene. The results showed that the softening point and the freeze-to-crack stress of asphalt increased the penetration and the freeze-to-crack temperature decreased after modification. The comprehensive performance of raw asphalt improved noticeably. Infrared analysis suggests that waste-polyethylene in packaging (WPE) combines the matrix of asphalt through physical mixture modification. And the modification mechanism of WPE was studied by the analysis of its micro structure, the characteristics of WPE, the effects of Crack pinning and Silver Shear yield in the decentralized process. Using waste packaging polymers to modify the asphalt proved to be an ideal way, for not only solving the problem of "white pollution", but also for improving the performance of asphalt. POLYM. COMPOS., 2008. © 2008 Society of Plastics Engineers

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